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SQL

SQL (<i>programminglanguage</i>)	
Full Name	Structured Query Language
Short Name	SQL
Description	Domain-specific language used in programming and designed for managing data held in a relational database management
Company	ISO/IEC
Web	No
Mobile	No
Enterprise	Yes
Embedded	Yes

What is SQL?

SQL (Structured Query Language) is a standard programming language used to manage and manipulate data in relational databases. It is used to create, modify, and query databases, and is commonly used in web development, data analysis, and other applications.

What are some popular relational database management systems (RDBMS) that use SQL?

Some popular RDBMS that use SQL include MySQL, PostgreSQL, Oracle Database, Microsoft SQL Server, and SQLite.

What is a database schema?

A database schema is a blueprint for a database that defines the structure of the tables, fields, and relationships within the database. It provides a framework for organizing and storing data, and is a fundamental concept in database design.

What is a query in SQL?

A query in SQL is a request for data from a database. It is typically used to extract specific information from one or more tables, and can involve filtering, sorting, and joining data.

What is a join in SQL?

A join in SQL is a method for combining data from two or more tables based on a common field or set of fields. There are several types of joins in SQL, including inner join, left join, right join, and full outer join.

What is normalization in database design?

Normalization is the process of organizing data in a database to eliminate redundancy and reduce data inconsistencies. It involves breaking down a database into smaller, more manageable tables, and establishing relationships between the tables.

What is an index in SQL?

An index in SQL is a data structure that improves the speed of data retrieval operations on a database. It is typically used to speed up queries that involve searching or sorting data, and can significantly improve database performance.

What is a transaction in SQL?

A transaction in SQL is a sequence of database operations that must be completed as a single unit of work. Transactions ensure data consistency and integrity by guaranteeing that either all of the operations in the sequence are completed, or none of them are. Transactions are used to implement the ACID (atomicity, consistency, isolation, durability) properties of a database.

What is a stored procedure in SQL?

A stored procedure in SQL is a precompiled block of SQL code that is stored in a database and can be executed multiple times. Stored procedures are commonly used to encapsulate complex database operations, and can improve performance by reducing the amount of data that is sent between the database and the application.

What is SQL injection?

SQL injection is a type of security vulnerability that occurs when an attacker is able to inject malicious SQL code into a database query, either through a web application or other interface. SQL injection attacks can be used to extract sensitive data from a database, modify or delete data, or even gain full control of a database server.

What is NoSQL?

NoSQL (Not Only SQL) is a category of databases that do not use the traditional table-based relational database model of SQL databases. Instead, NoSQL databases use a variety of data models, such as key-value, document, or graph-based, and are designed to handle large amounts of unstructured or semi-structured data. NoSQL databases are often used in big data and real-time web applications.

Snippet from [Wikipedia](#): [SQL](#)

Structured Query Language (SQL) (*S-Q-L*, sometimes "sequel" for historical reasons) is a domain-specific language used to manage data, especially in a relational database management system (RDBMS). It is particularly useful in handling structured data, i.e., data incorporating relations among entities and variables.

Introduced in the 1970s, SQL offered two main advantages over older read-write APIs such as ISAM or VSAM. Firstly, it introduced the concept of accessing many records with one single command. Secondly, it eliminates the need to specify *how* to reach a record, i.e., with or without an index.

Originally based upon relational algebra and tuple relational calculus, SQL consists of many types of statements, which may be informally classed as sublanguages, commonly: Data query Language (DQL), Data Definition Language (DDL), Data Control Language (DCL), and Data Manipulation Language (DML).

The scope of SQL includes data query, data manipulation (insert, update, and delete), data definition (schema creation and modification), and data access control. Although SQL is essentially a declarative language (4GL), it also includes procedural elements.

SQL was one of the first commercial languages to use Edgar F. Codd's relational model. The model was described in his influential 1970 paper, "A Relational Model of Data for Large Shared Data Banks". Despite not entirely adhering to the relational model as described by Codd, SQL became the most widely used database language.

SQL became a standard of the American National Standards Institute (ANSI) in 1986 and of the International Organization for Standardization (ISO) in 1987. Since then, the standard has been revised multiple times to include a larger set of features and incorporate common extensions. Despite the existence of standards, virtually no implementations in existence adhere to it fully, and most SQL code requires at least some changes before being ported to different database systems.

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GitHub Topics

- <https://github.com/topics/sql>

SQL stands for structured query language. It uses commands such as "select", "insert", "update", "delete". Some common relational database management systems that use SQL are: Oracle, MySQL, Microsoft SQL Server, PostgreSQL, etc.

Hello World

```
Declare @Output varchar(16)
Set @Output='Hello, world!'
Select 'Output' = @Output
```

Source: [Wikibooks](#)

See also: [Programming Languages](#)

[programminglanguage](#), [dev-db](#)

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